

FIG. 1

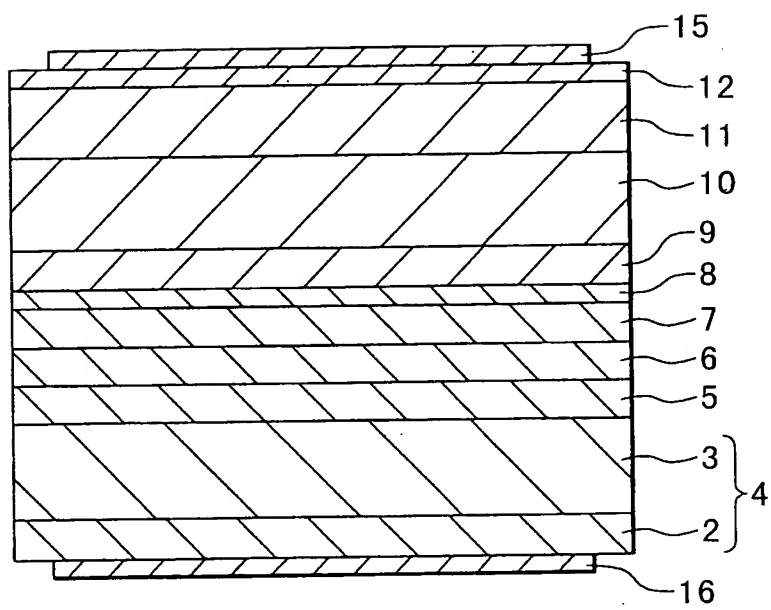


FIG.2A

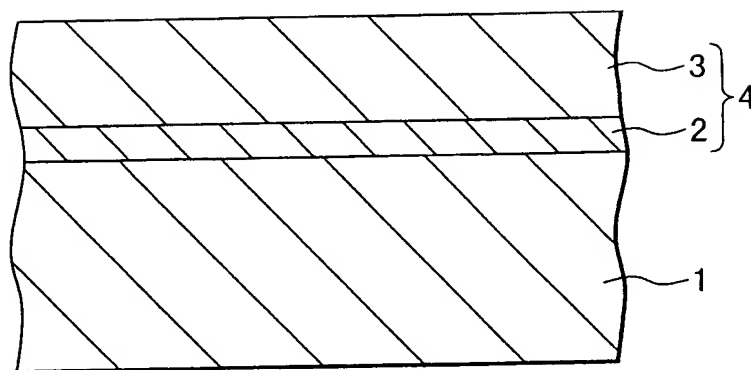


FIG.2B

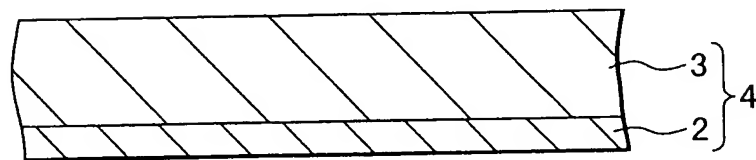


FIG.3

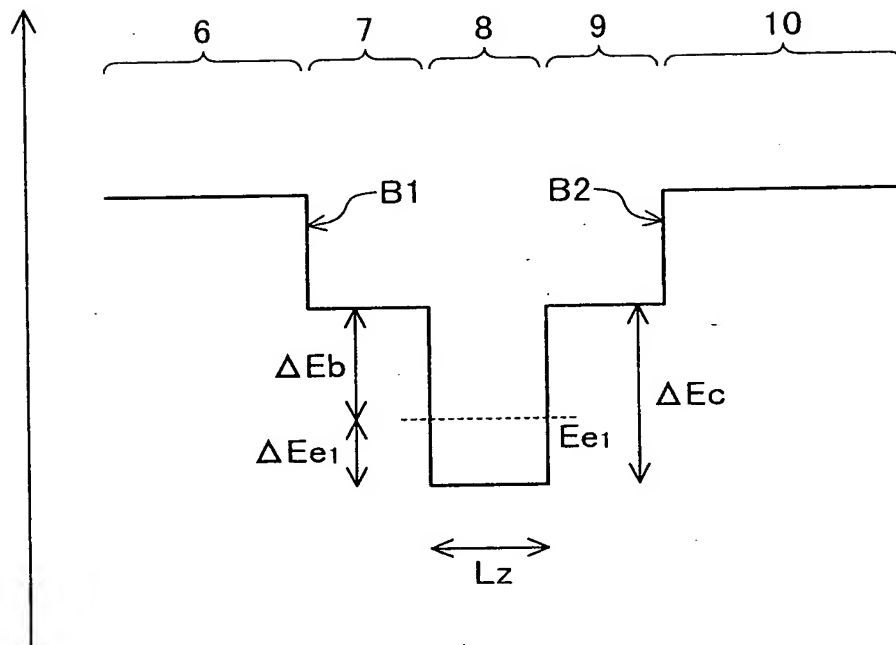


FIG.4

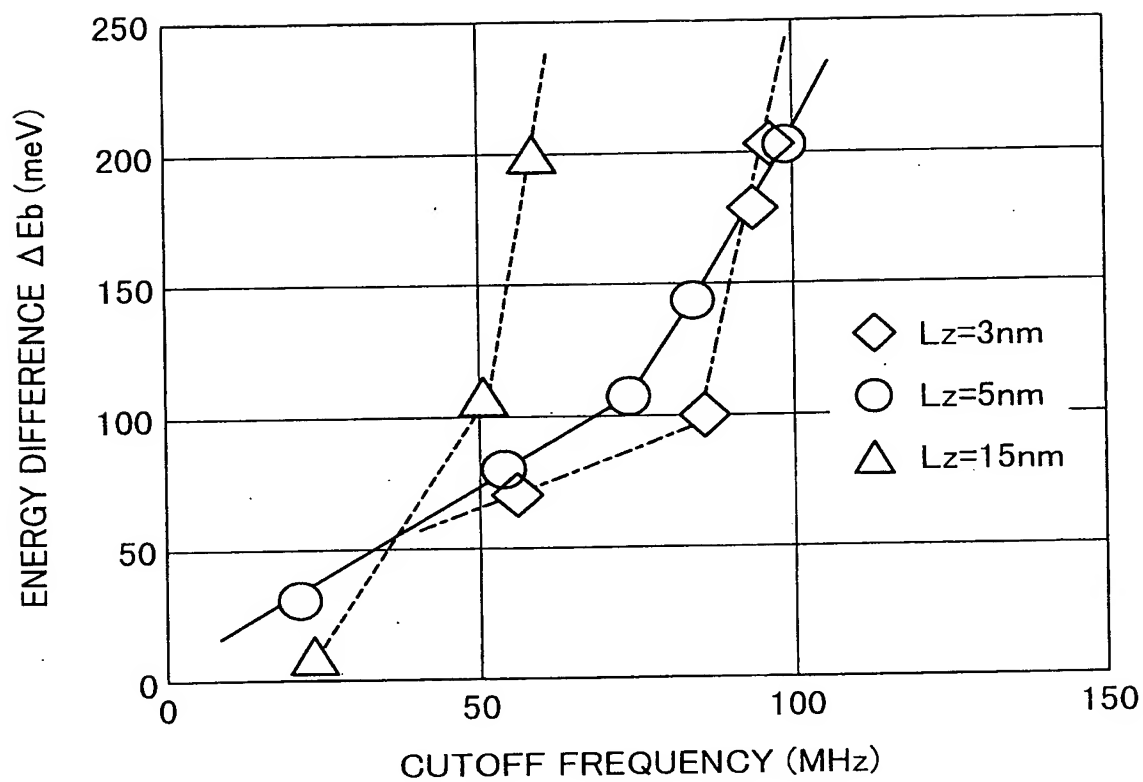


FIG.5

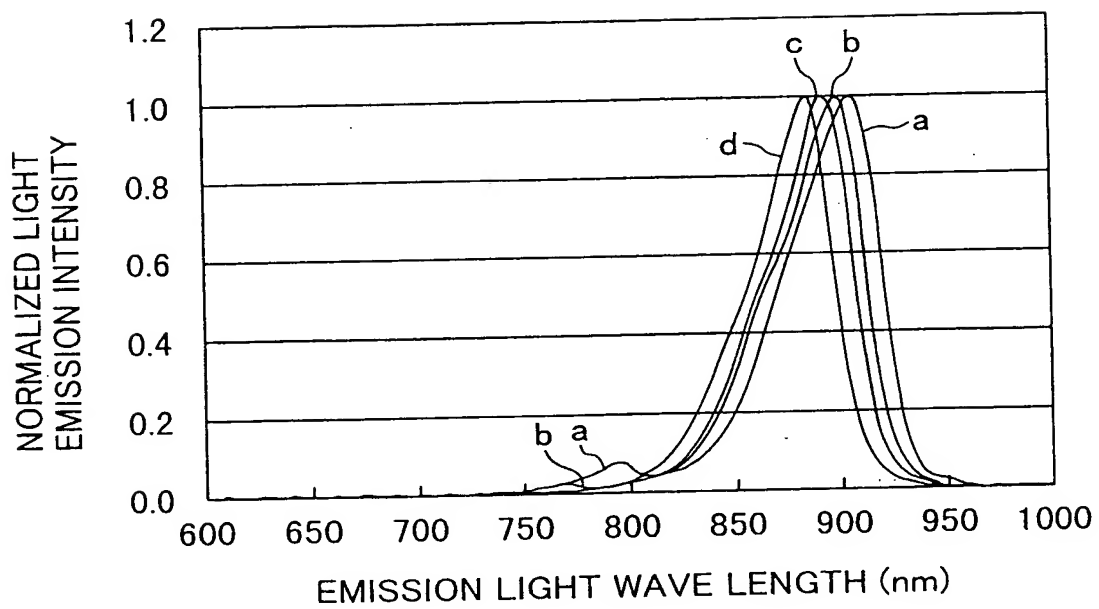


FIG.6

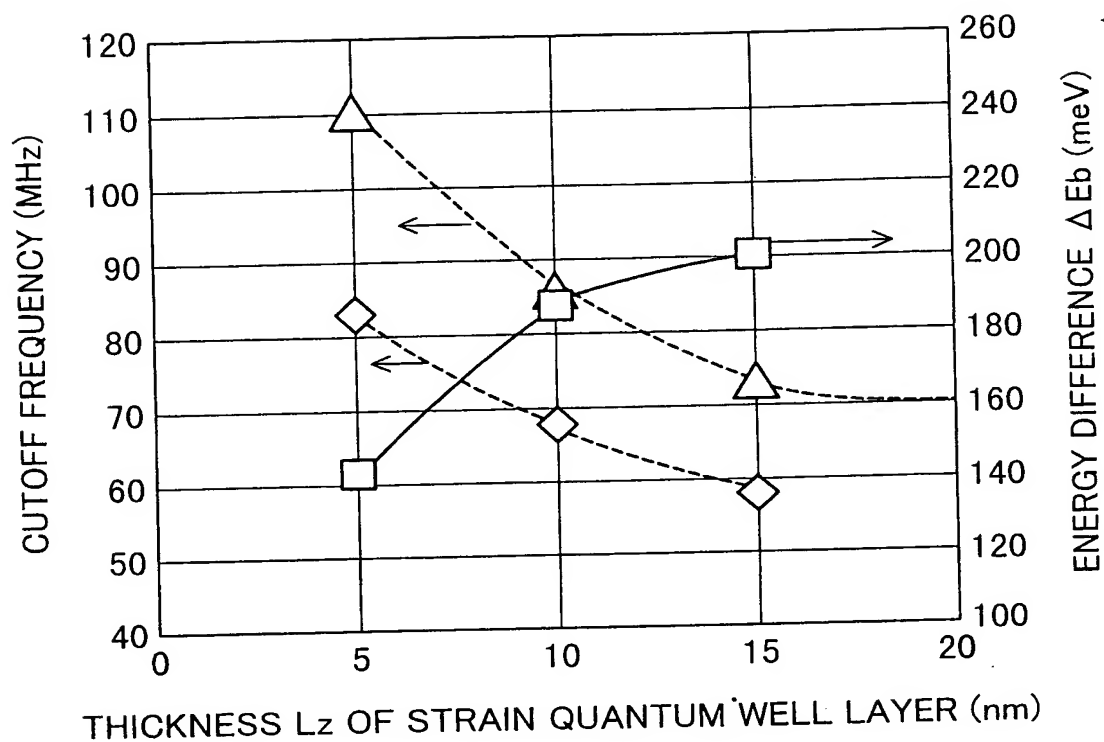


FIG.7

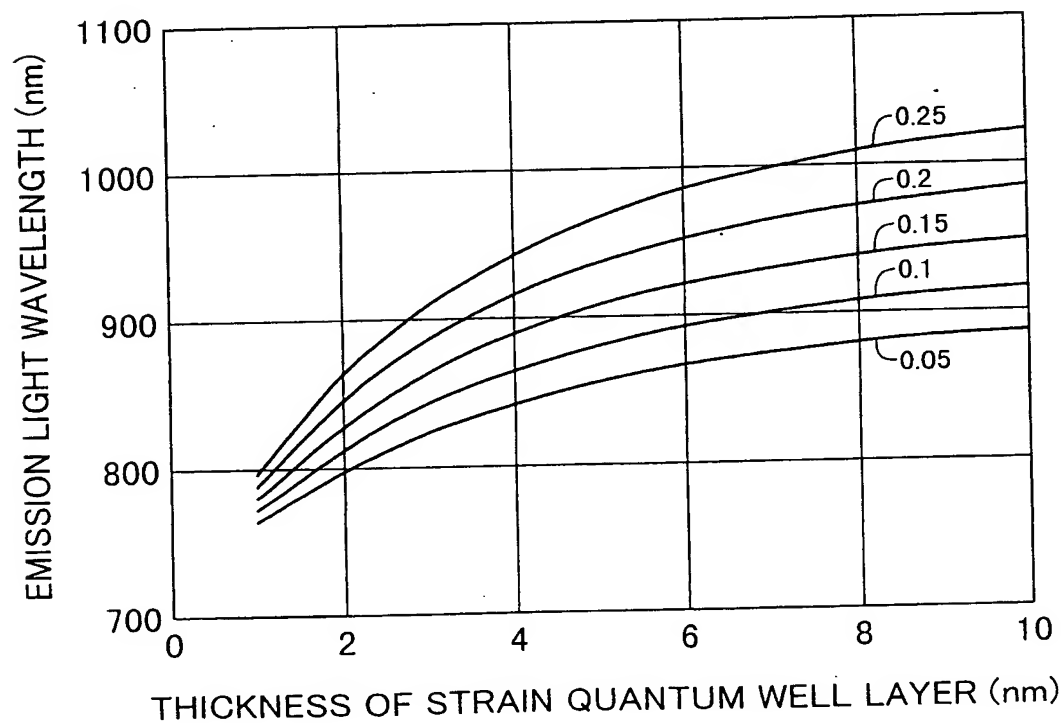


FIG.8

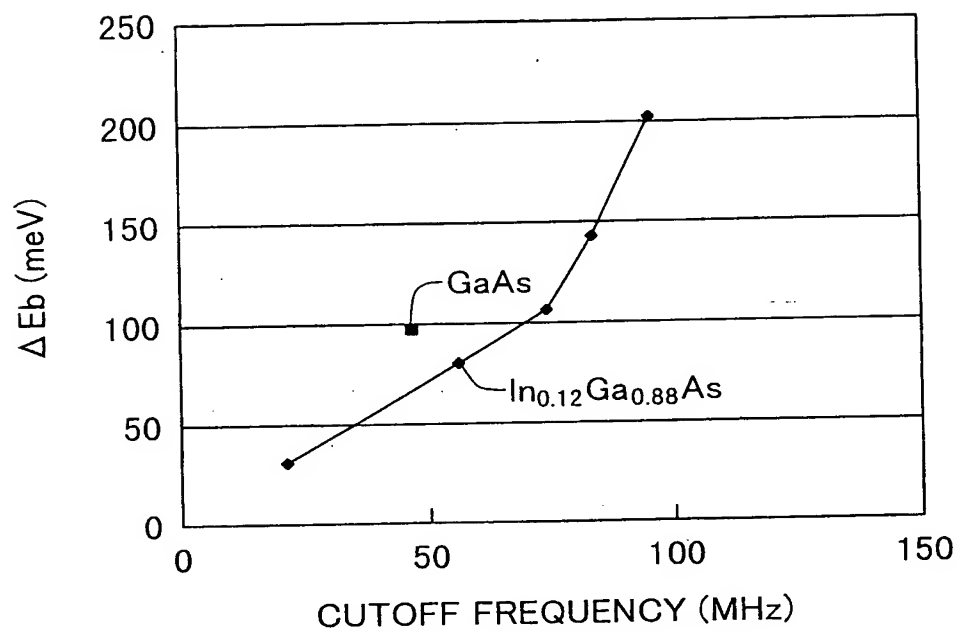


FIG.9

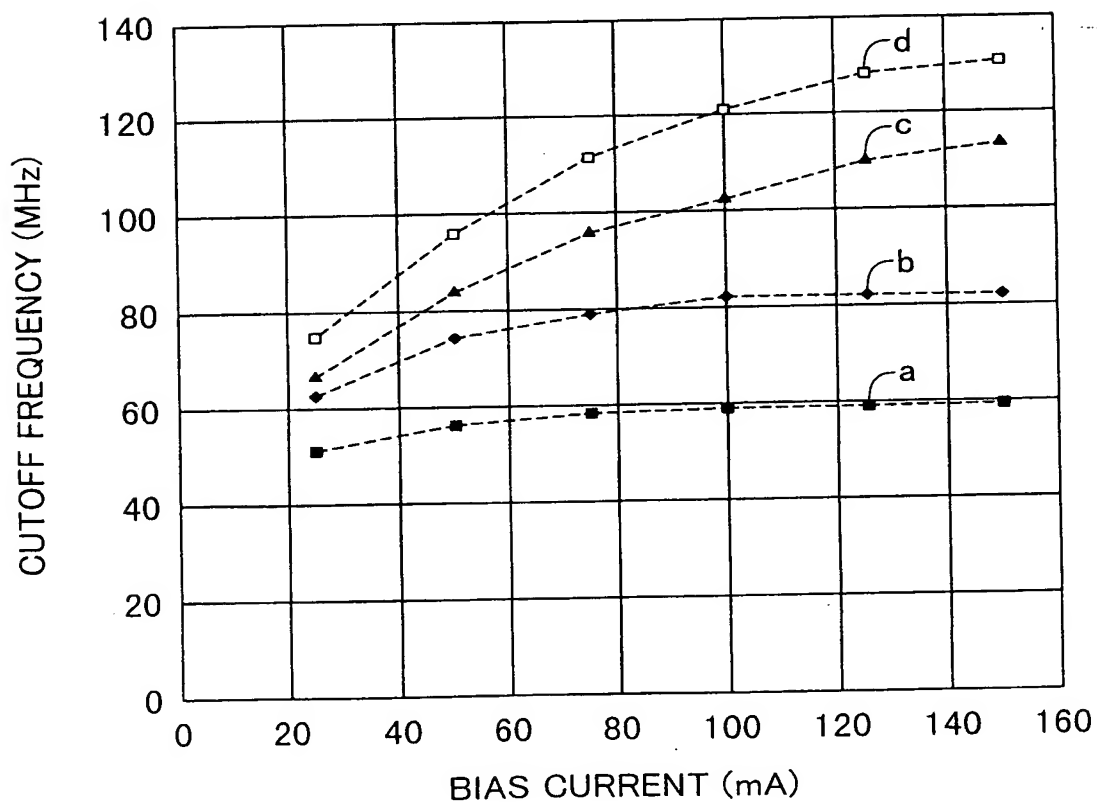


FIG. 10

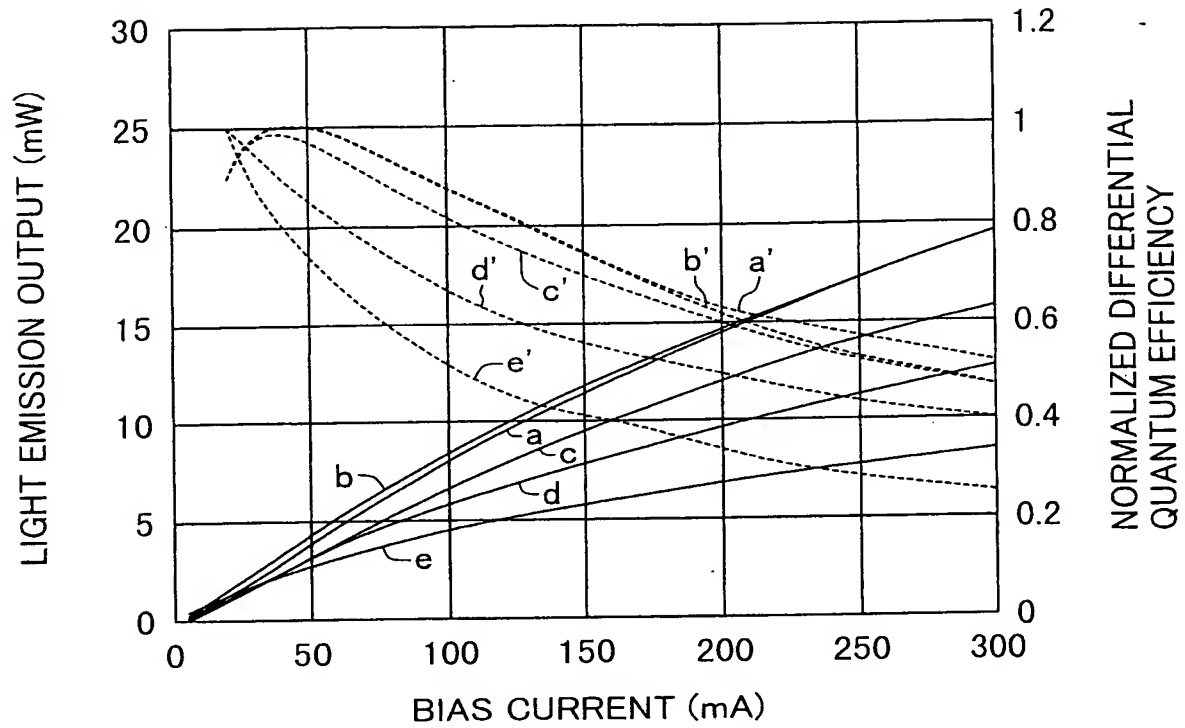


FIG. 11

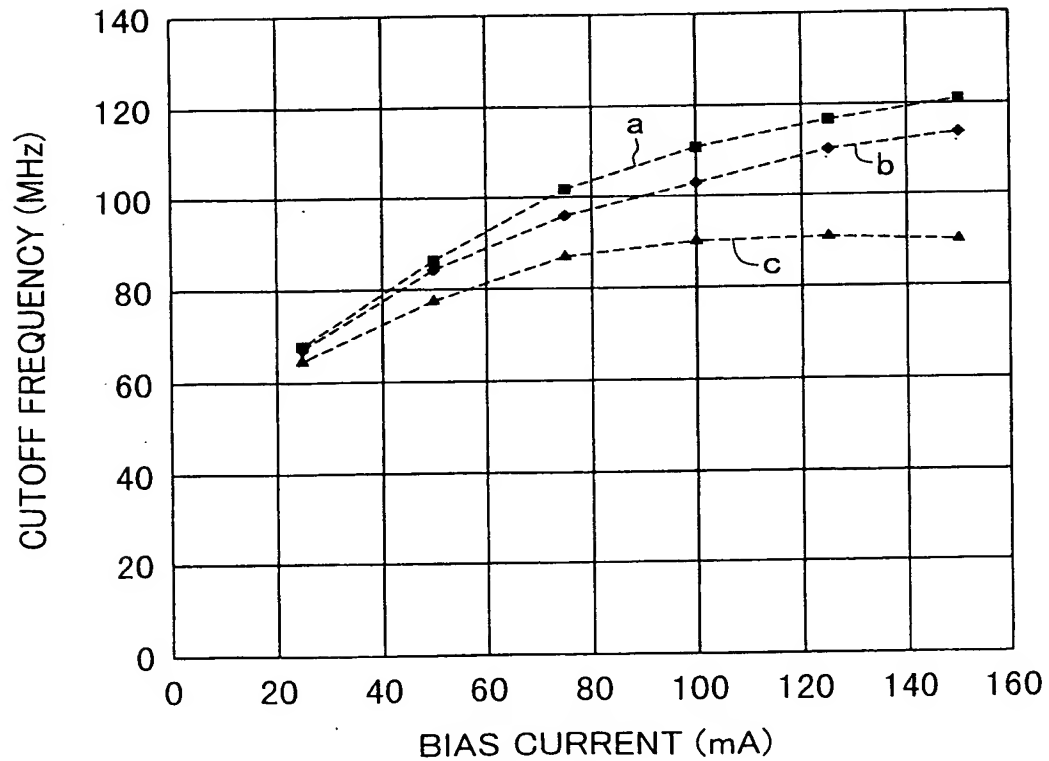


FIG.12

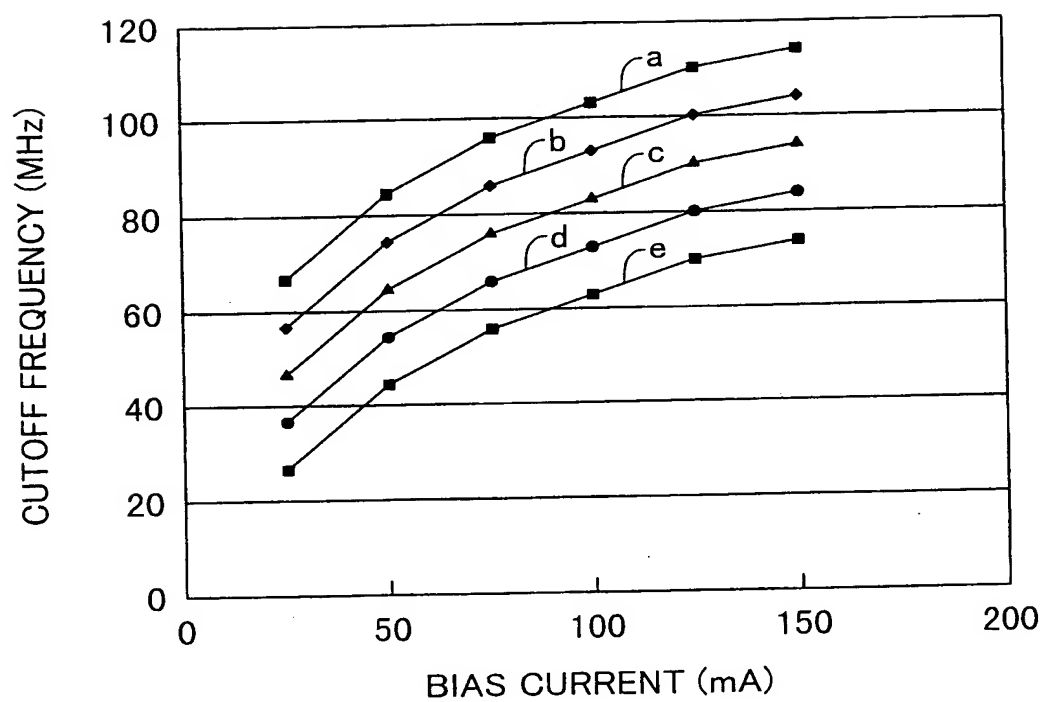


FIG.13

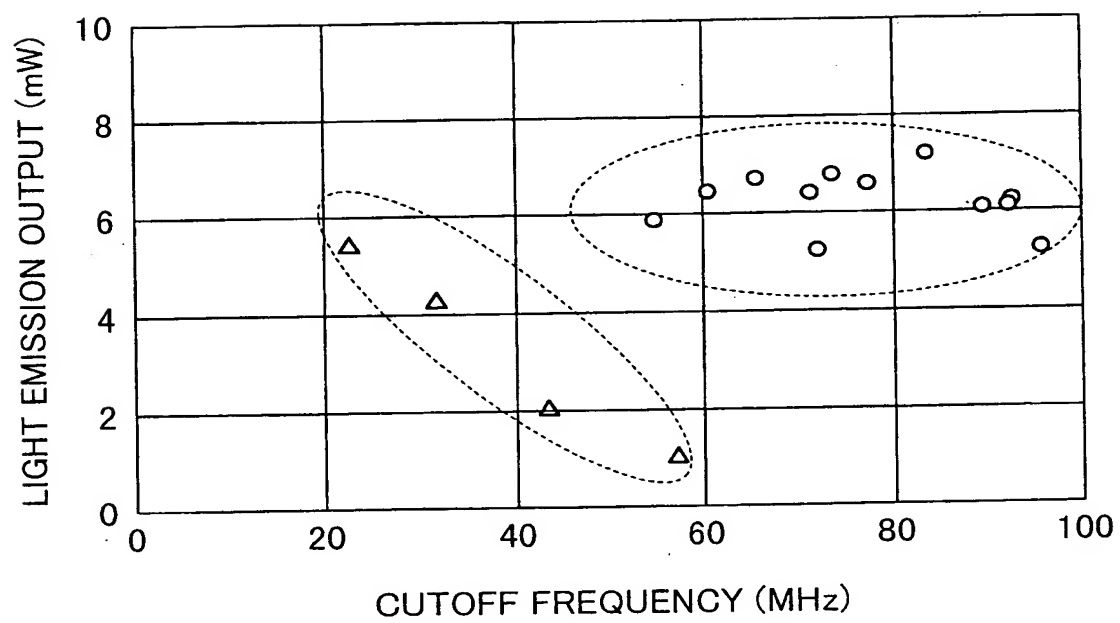


FIG. 14

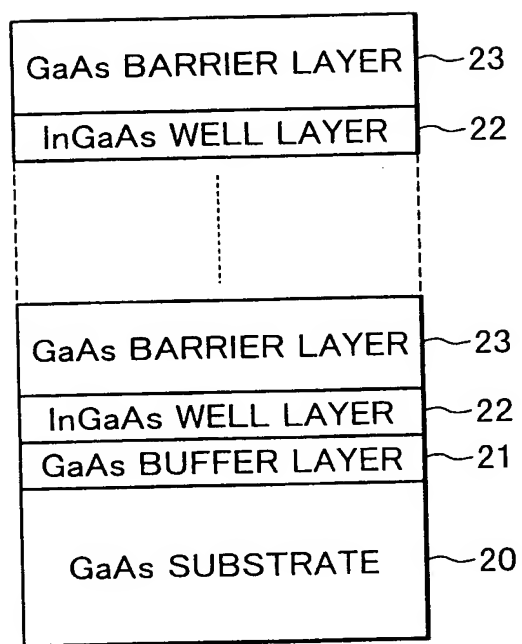


FIG. 15

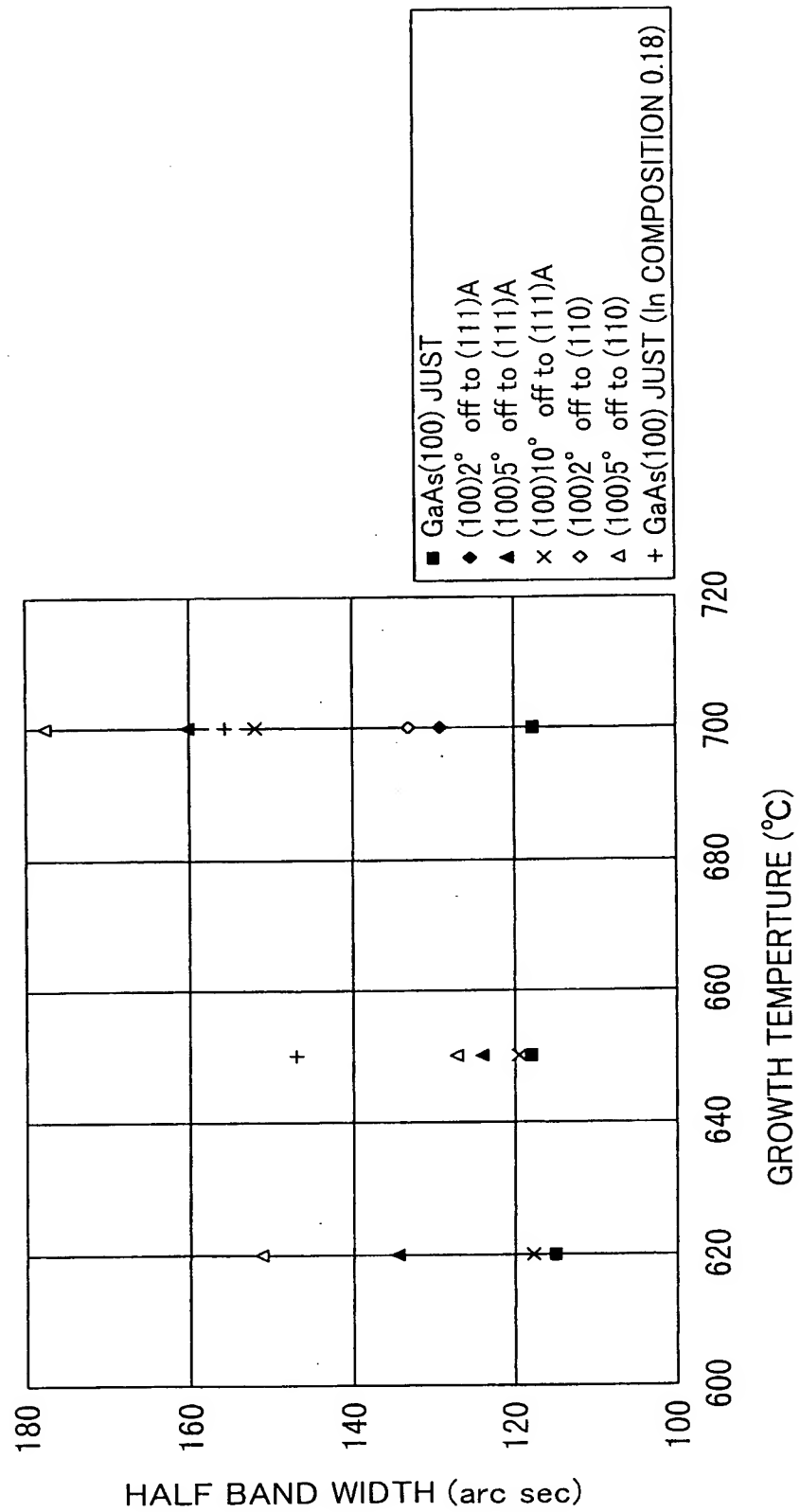


FIG.16A

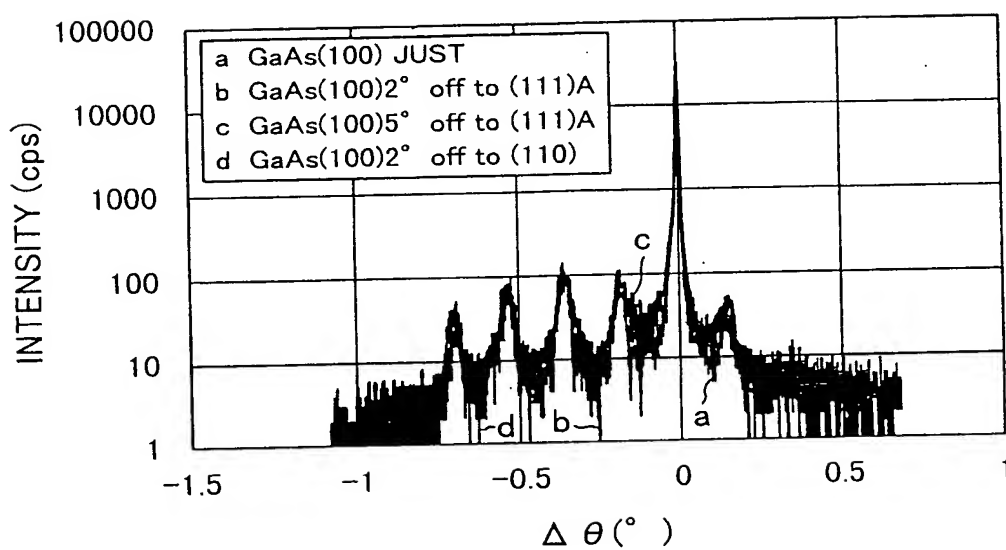


FIG.16B

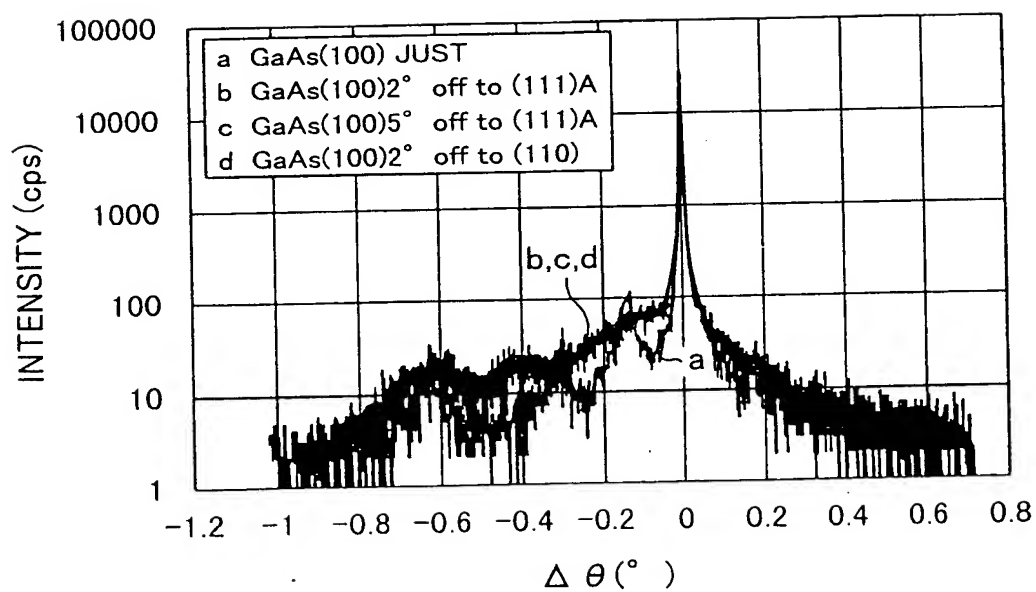


FIG.17

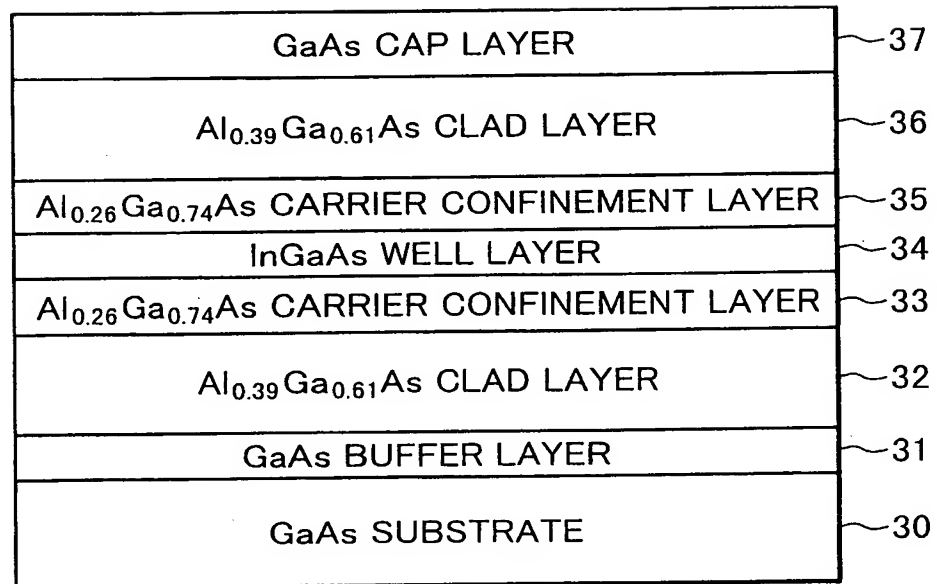


FIG.18

SAMPLE	InGaAs QUANTUM WELL LAYER		SUBSTRATE
	In COMPOSITION RATIO	THICKNESS (nm)	
A	0.12	5	GaAs(100) JUST
B	0.12	10	GaAs(100) JUST
C	0.12	15	GaAs(100) JUST
D	0.12	5	GaAs(100)5° off to (111)A
E	0.12	10	GaAs(100)5° off to (111)A
F	0.12	15	GaAs(100)5° off to (111)A
G	0.18	5	GaAs(100) JUST
H	0.18	10	GaAs(100) JUST
I	0.18	15	GaAs(100) JUST
J	0.18	5	GaAs(100)5° off to (111)A
K	0.18	10	GaAs(100)5° off to (111)A
L	0.18	15	GaAs(100)5° off to (111)A

FIG.19

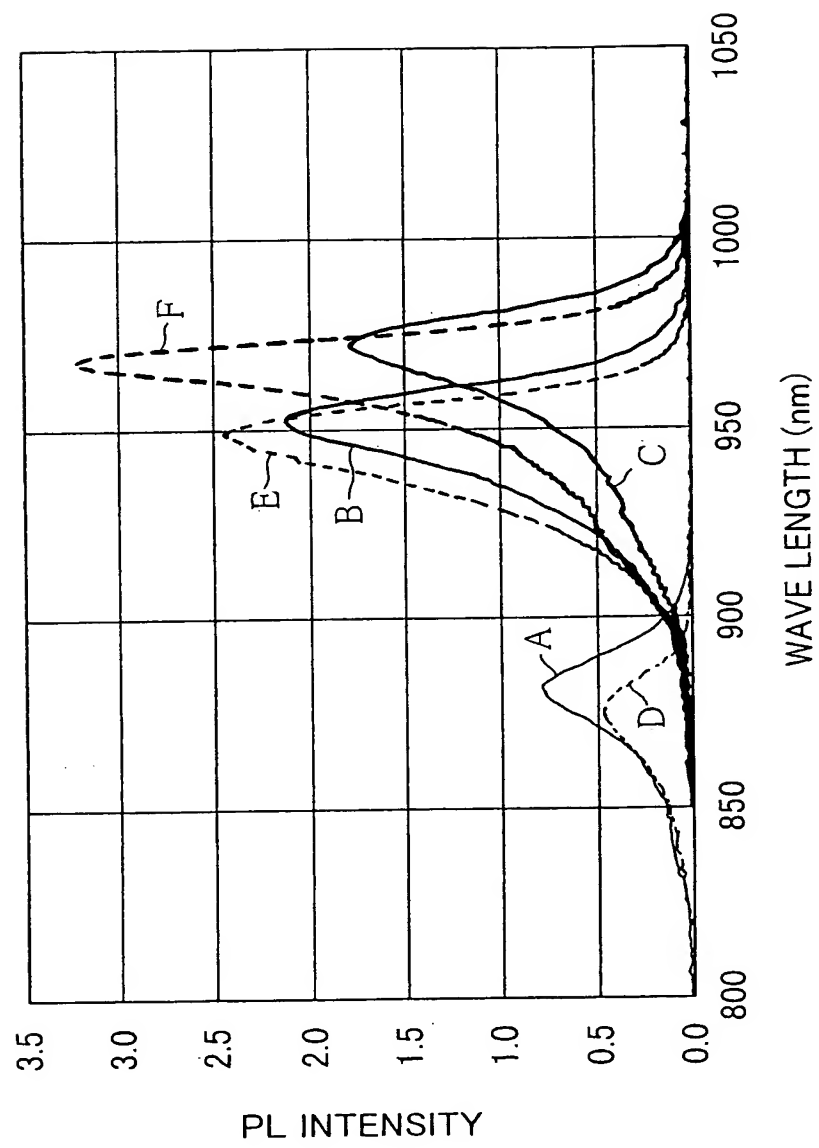


FIG.20

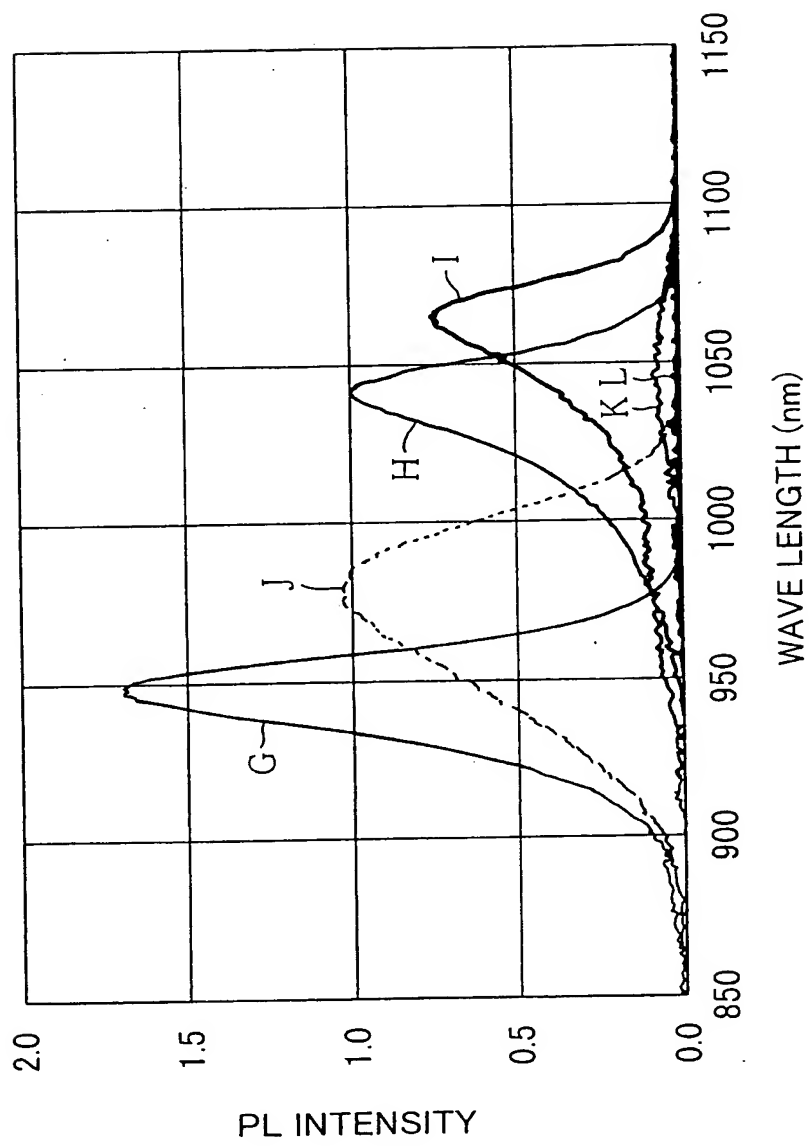


FIG.21

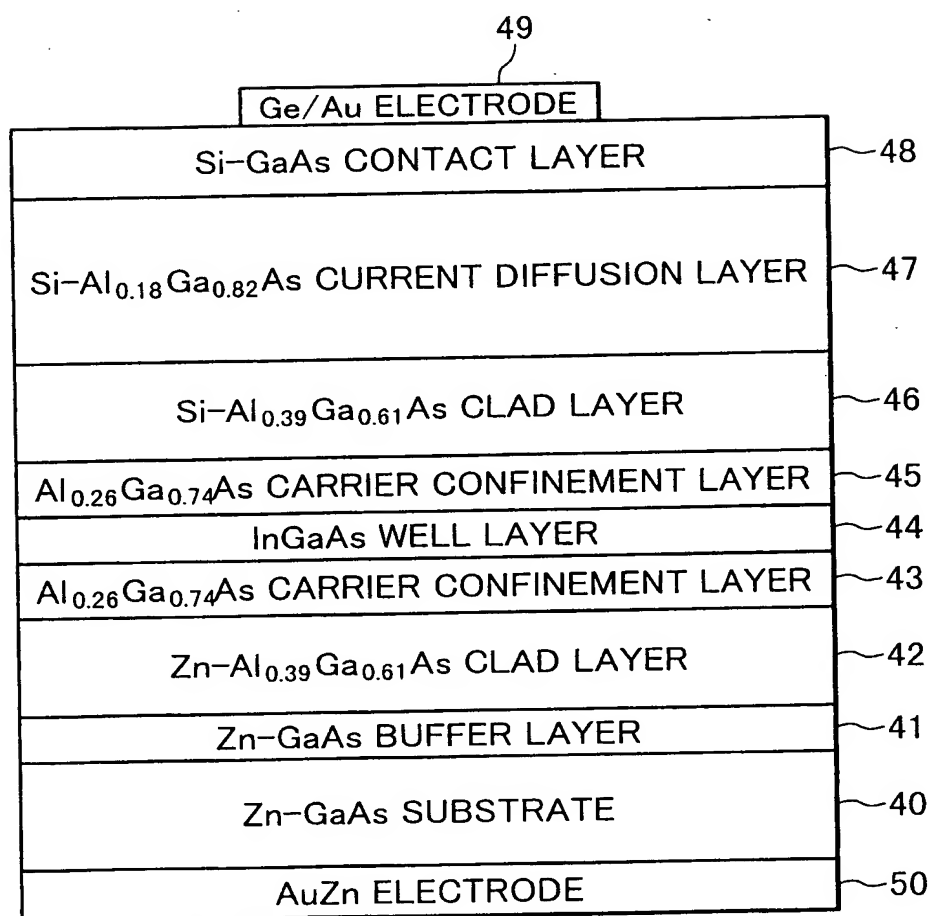


FIG.22

SAMPLE	SUBSTRATE	InGaAs QUANTUM WELL LAYER		EL INTENSITY (mW)	HALF BAND WIDTH (nm) OF EL SPECTRUM	CUTOFF FREQUENCY (MHz)
		In COMPOSITION RATIO	THICKNESS (nm)			
W	GaAs(100) JUST	0.12	5	2.2	46.3	81.9
X	GaAs(100)5° off to (111)A	0.12	5	2.1	57.6	79.0
Y	GaAs(100) JUST	0.25	3	2.0	56.8	105.1
Z	GaAs(100)5° off to (111)A	0.25	3	1.3	99.9	112.9

FIG.23

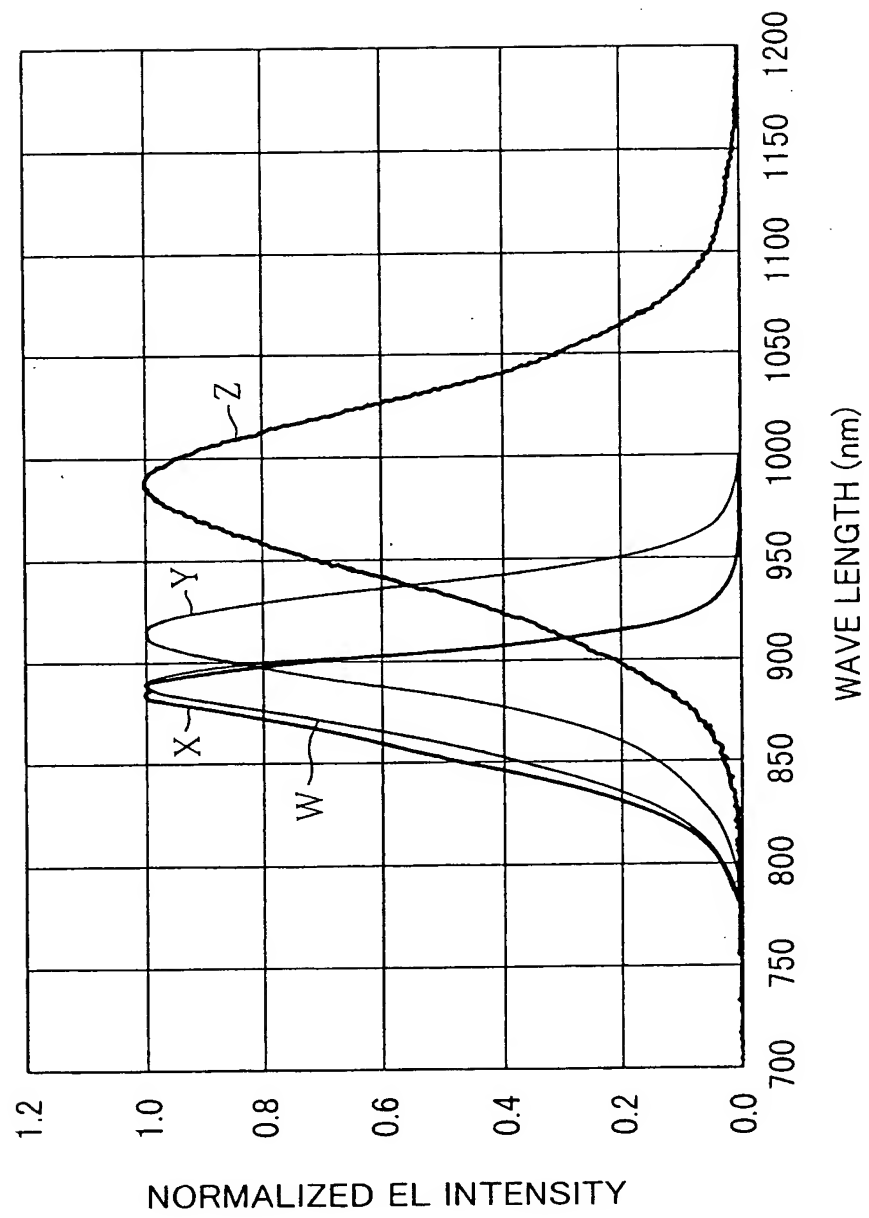


FIG.24

